

IN THE CLAIMS:

Please cancel claims 1-10 and add the following new claims.

8b
C1
--11. An isolated antibody, which binds with an amino acid sequence of human immunodeficiency virus type 1, wherein said amino acid sequence is selected from the group consisting of:

(a) the following sequence of ORF-Q:

6
B
Cys-Gln-Glu-Glu-Lys-Gln-Arg-Ser-Leu-Gly-Ile-Met-Glu-Asn-Arg-Trp-Gln-Val-Met-Ile-Val-Trp-Gln-Val-Asp-Arg-Met-Arg-Ile-Arg-Thr-Trp-Lys-Ser-Leu-Val-Lys-His-His-Met-Tyr-Val-Ser-Gly-Lys-Ala-Arg-Gly-Trp-Phe-Tyr-Arg-His-His-Tyr-Glu-Ser-Pro-His-Pro-Arg-Ile-Ser-Ser-Glu-Val-His-Ile-Pro-Leu-Gly-Asp-Ala-Arg-Leu-Val-Ile-Thr-Thr-Val-Trp-Gly-Leu-His-Thr-Gly-Glu-Pro-Asp-Trp-His-Leu-Gly-Gln-Gly-Val-Ser-Ile-Glu-Trp-Arg-Lys-Lys-Arg-Tyr-Ser-Thr-Gln-Val-Asp-Pro-Glu-Leu-Ala-Asp-Gln-Leu-Ile-His-Leu-Tyr-Tyr-Phe-Asp-Cys-Phe-Ser-Asp-Ser-Ala-Ile-Arg-Lys-Ala-Leu-Leu-Gly-His-Ile-Val-Ser-Pro-Arg-Cys-Phe-Tyr-Gln-Ala-Gly-His-Asn-Lys-Val-Gly-Ser-Leu-Gln-Tyr-Leu-Ala-Leu-Ala-Ala-Leu-Ile-Thr-Pro-Lys-Lys-Ile-Lys-Pro-Pro-Leu-Pro-Ser-Val-Thr-Lys-Leu-Tyr-Thr-Glu-Asp-Arg-Trp-Asn-Lys-Pro-Gln-Lys-Thr-Lys-Gly-His-Arg-Gly-Ser-His-Thr-Met-Asn-Gly-His;

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(b) the following sequence of ORF-R:

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Glu-Pro-Ala-Ala-Asp-Gly-Val-Gly-Ala-Ala-Ser-Arg-Asp-Leu-Phe-Lys-
His-Gly-Ala-Ile-Thr-Ser-Ser-Asn-Thr-Ala-Ala-Thr-Asn-Ala-Ala-Cys-
Ala-Trp-Leu-Phe-Ala-Gln-Phe-Phe-Phe-Phe-Val-Gly-Phe-Pro-Val-Thr-
Pro-Gln-Val-Pro-Leu-Arg-Pro-Met-Thr-Tyr-Lys-Ala-Ala-Val-Asp-Leu-
Ser-His-Phe-Leu-Lys-Glu-Lys-Gly-Gly-Leu-Glu-Gly-Leu-Ile-His-Ser-
Gln-Arg-Arg-Gln-Asp-Ile-Leu-Asp-Leu-Trp-Ile-Tyr-His-Thr-Gln-Gly-
Tyr-Phe-Pro-Asp-Trp-Gln-Asn-Tyr-Thr-Pro-Gly-Pro-Gly-Val-Arg-Tyr-
Leu-Thr-Phe-Gly-Trp-Cys-Tyr-Lys-Leu-Val-Pro-Val-Phe-Pro-Asp-Lys-
Val-Phe-Phe-Ala-Asn-Lys-Gly-Phe-Asn-Thr-Ser-Leu-Leu-His-Pro-Val-
Ser-Leu-His-Gly-Met-Asp-Asp-Pro-Glu-Arg-Glu-Val-Leu-Glu-Trp-Arg-
Phe-Asp-Ser-Arg-Leu-Ala-Phe-His-His-Val-Ala-Arg-Glu-Leu-His-Pro-
Glu-Tyr-Phe-Lys-Asn-Cys;

(c) the following sequence of ORF-1:

56

Trp-Asn-Lys-Pro-Gln-Lys-Thr-Lys-Gly-His-Arg-Gly-Ser-His-Thr-Met-
Asn-Gly-His-Amber-Ser-Phe-Amber-Arg-Ser-Leu-Arg-Met-Lys-Leu-Leu-
Asp-Ile-Phe-Leu-Gly-Phe-Gly-Phe-Gly-Ser-Met-Ala-Amber-Gly-Asn-
Ile-Ser-Met-Lys-Leu-Met-Gly-Ile-Leu-Gly-Gln-Glu-Trp-Lys-Pro-
Ochre-Ochre-Glu-Phe-Cys-Asn-Asn-Cys-Cys-Leu-Ser-Ile-Ser-Glu-Leu-
Gly-Val-Asp-Ile-Ala-Glu-Amber-Ala-Leu-Leu-Asn-Arg-Gly-Glu-Gln-
Glu-Met-Glu-Pro-Val-Asp-Pro;

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(d) the following sequence of ORF-2:

Ala-Leu-Leu-Asn-Arg-Gly-Glu-Gln-Glu-Met-Glu-Pro-Val-Asp-Pro-Arg-
Leu-Glu-Pro-Trp-Lys-His-Pro-Gly-Ser-Gln-Pro-Lys-Thr-Ala-Cys-Thr-
Thr-Cys-Tyr-Cys-Lys-Lys-Cys-Cys-Phe-His-Cys-Gln-Val-Cys-Phe-Thr-
Thr-Lys-Ala-Leu-Gly-Ile-Ser-Tyr-Gly-Arg-Lys-Lys-Arg-Arg-Gln-Arg-
Arg-Arg-Pro-Pro-Gln-Ser-Gln-Thr-His-Gln-Val-Ser-Leu-Ser-Lys-Gln;

(e) the following sequence of ORF-3:

Lys-Val-Leu-Leu-Ser-Leu-Pro-Ser-Leu-Phe-His-Asn-Lys-Ser-Leu-Arg-
His-Leu-Leu-Trp-Glu-Glu-Ala-Glu-Thr-Ala-Thr-Lys-Thr-Ser-Ser-Arg-
Gln-Ser-Asp-Ser-Ser-Ser-Phe-Ser-Ile-Lys-Ala-Val-Ser-Ser-Thr-Cys-
Asn-Ala-Thr-Tyr-Thr-Asn-Ser-Asn-Ser-Ser-Ile-Ser-Ser-Ser-Asn-Asn-
Asn-Ser-Asn-Ser-Cys-Val-Val-His-Ser-Asn-His-Arg-Ile;

(f) the following sequence of ORF-4:

Val-Val-His-Val-Met-Gln-Pro-Ile-Gln-Ile-Ala-Ile-Ala-Ala-Leu-Val-
Val-Ala-Ile-Ile-Ile-Ala-Ile-Val-Val-Trp-Ser-Ile-Val-Ile-Ile-Glu-
Tyr-Arg-Lys-Ile-Leu-Arg-Gln-Arg-Lys-Ile-Asp-Arg-Leu-Ile-Asp-Arg-
Leu-Ile-Glu-Arg-Ala-Glu-Asp-Ser-Gly-Asn-Glu-Ser-Glu-Gly-Glu-Ile-
Ser-Ala-Leu-Val-Glu-Met-Gly-Val-Glu-Met-Gly-His-His-Ala-Pro-Trp-
Asp-Ile-Asp-Asp-Leu;

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(g) the following sequence of ORF-5:

His-Leu-Ser-Gly-Thr-Ile-Cys-Gly-Ala-Leu-Cys-Leu-Phe-Ser-Tyr-His-Arg-Leu-Arg-Asp-Leu-Leu-Leu-Ile-Val-Thr-Arg-Ile-Val-Glu-Leu-Leu-Gly-Arg-Arg-Gly-Trp-Glu-Ala-Leu-Lys-Tyr-Trp-Trp-Asn-Leu-Leu-Gln-Tyr-Trp-Ser-Gln-Glu-Leu-Lys-Asn-Ser-Ala-Val-Ser-Leu-Leu-Asn-Ala-Thr-Ala-Ile-Ala-Val-Ala-Glu-Gly-Thr-Asp-Arg-Val-Ile-Glu-Val-Val-Gln-Gly-Ala-Cys-Arg-Ala-Ile-Arg-His-Ile-Pro-Arg-Arg-Ile-Arg-Gln-Gly-Leu-Glu-Arg-Ile-Leu-Leu-Ochre-Asp; and

(h) the following sequence of LTR:

Gly-Gly-Ser-Glu-Gly-Leu-Ile-His-Ser-Gln-Arg-Arg-Gln-Asp-Ile-Leu-Asp-Leu-Trp-Ile-Tyr-His-Thr-Gln-Gly-Tyr-Phe-Pro-Asp-Trp-Gln-Asn-Tyr-Thr-Pro-Gly-Pro-Gly-Val-Arg-Tyr-Pro-Leu-Thr-Phe-Gly-Trp-Cys-Tyr-Lys-Leu-Val-Pro-Val-Glu-Pro-Asp-Lys-Val-Glu-Glu-Ala-Asn-Lys-Gly-Glu-Asn-Thr-Ser-Leu-Leu-His-Pro-Val-Ser-Leu-His-Gly-Met-Asp-Asp-Pro-Glu-Arg-Glu-Val-Leu-Glu-Trp-Arg-Phe-Asp-Ser-Arg-Leu-Ala-Phe-His-His-Val-Ala-Arg-Glu-Leu-His-Pro-Glu-Tyr-Phe-Lys-Asn-Cys-*His-Arg-Ala-Cys-Tyr-Lys-Gly-Leu-Ser-Ala-Gly-His-Phe-Pro-Gly-Arg-Arg-Gly-Leu-Gly-Gly-Thr-Gly-Glu-Trp-Arg-Ala-Leu-Arg-Trp-Trp-Ile-*Ala-Ala-Ala-Phe-Cys-Leu-Tyr-Trp-Ala-Ser-Leu-Val-Arg-Pro-Asp-Leu-Ser-Leu-Gly-Ala-Leu-Trp-Leu-Thr-Arg-Glu-Pro-Thr-Ala-*Ala-Ser-Ile-Lys-Leu-Ala-Leu-Ser-Ala-Ser-Ser-Ser-Val-Cys-Pro-Ser-Val-Val-*Leu-Trp-*Leu-Glu-Ile-Pro-Gln-Thr-Leu-Leu-Val-Ser-Val-Glu-Asn-Leu-*Gln-Trp-Arg-Pro-Asn-Arg-Asp-Leu-Lys-Ala-Lys-Gly-Lys-Pro-Glu-Glu-Leu-Ser-Arg.

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12. The antibody according to claim 11, wherein said antibody is labeled with a label selected from the group consisting of a radioactive label, an enzymatic label, a fluorescent label, a chemiluminescent label, and a chromophore label.

13. An isolated antibody which binds with an immunological complex, wherein the complex comprises an amino acid sequence of human immunodeficiency virus type 1 (HIV-1) and an antibody to said amino acid sequence, wherein said amino acid sequence is selected from the group consisting of:

(a) the following sequence of ORF-Q:

Cys-Gln-Glu-Glu-Lys-Gln-Arg-Ser-Leu-Gly-Ile-Met-Glu-Asn-Arg-Trp-Gln-Val-Met-Ile-Val-Trp-Gln-Val-Asp-Arg-Met-Arg-Ile-Arg-Thr-Trp-Lys-Ser-Leu-Val-Lys-His-His-Met-Tyr-Val-Ser-Gly-Lys-Ala-Arg-Gly-Trp-Phe-Tyr-Arg-His-His-Tyr-Glu-Ser-Pro-His-Pro-Arg-Ile-Ser-Ser-Glu-Val-His-Ile-Pro-Leu-Gly-Asp-Ala-Arg-Leu-Val-Ile-Thr-Thr-Val-Trp-Gly-Leu-His-Thr-Gly-Glu-Pro-Asp-Trp-His-Leu-Gly-Gln-Gly-Val-Ser-Ile-Glu-Trp-Arg-Lys-Lys-Arg-Tyr-Ser-Thr-Gln-Val-Asp-Pro-Glu-Leu-Ala-Asp-Gln-Leu-Ile-His-Leu-Tyr-Tyr-Phe-Asp-Cys-Phe-Ser-Asp-Ser-Ala-Ile-Arg-Lys-Ala-Leu-Leu-Gly-His-Ile-Val-Ser-Pro-Arg-Cys-Phe-Tyr-Gln-Ala-Gly-His-Asn-Lys-Val-Gly-Ser-Leu-Gln-Tyr-Leu-Ala-Leu-Ala-Ala-Leu-Ile-Thr-Pro-Lys-Lys-Ile-Lys-Pro-Pro-Leu-Pro-Ser-Val-Thr-Lys-Leu-Tyr-Thr-Glu-Asp-Arg-Trp-Asn-Lys-Pro-Gln-Lys-Thr-Lys-Gly-His-Arg-Gly-Ser-His-Thr-Met-Asn-Gly-His;

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(b) the following sequence of ORF-R:

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Glu-Pro-Ala-Ala-Asp-Gly-Val-Gly-Ala-Ala-Ser-Arg-Asp-Leu-Phe-Lys-
His-Gly-Ala-Ile-Thr-Ser-Ser-Asn-Thr-Ala-Ala-Thr-Asn-Ala-Ala-Cys-
Ala-Trp-Leu-Phe-Ala-Gln-Phe-Phe-Phe-Phe-Val-Gly-Phe-Pro-Val-Thr-
Pro-Gln-Val-Pro-Leu-Arg-Pro-Met-Thr-Tyr-Lys-Ala-Ala-Val-Asp-Leu-
Ser-His-Phe-Leu-Lys-Glu-Lys-Gly-Gly-Leu-Glu-Gly-Leu-Ile-His-Ser-
Gln-Arg-Arg-Gln-Asp-Ile-Leu-Asp-Leu-Trp-Ile-Tyr-His-Thr-Gln-Gly-
Tyr-Phe-Pro-Asp-Trp-Gln-Asn-Tyr-Thr-Pro-Gly-Pro-Gly-Val-Arg-Tyr-
Leu-Thr-Phe-Gly-Trp-Cys-Tyr-Lys-Leu-Val-Pro-Val-Phe-Pro-Asp-Lys-
Val-Phe-Phe-Ala-Asn-Lys-Gly-Phe-Asn-Thr-Ser-Leu-Leu-His-Pro-Val-
Ser-Leu-His-Gly-Met-Asp-Asp-Pro-Glu-Arg-Glu-Val-Leu-Glu-Trp-Arg-
Phe-Asp-Ser-Arg-Leu-Ala-Phe-His-His-Val-Ala-Arg-Glu-Leu-His-Pro-
Glu-Tyr-Phe-Lys-Asn-Cys;

(c) the following sequence of ORF-1:

Trp-Asn-Lys-Pro-Gln-Lys-Thr-Lys-Gly-His-Arg-Gly-Ser-His-Thr-Met-
Asn-Gly-His-Amber-Ser-Phe-Amber-Arg-Ser-Leu-Arg-Met-Lys-Leu-Leu-
Asp-Ile-Phe-Leu-Gly-Phe-Gly-Phe-Gly-Ser-Met-Ala-Amber-Gly-Asn-
Ile-Ser-Met-Lys-Leu-Met-Gly-Ile-Leu-Gly-Gln-Glu-Trp-Lys-Pro-
Ochre-Ochre-Glu-Phe-Cys-Asn-Asn-Cys-Cys-Leu-Ser-Ile-Ser-Glu-Leu-
Gly-Val-Asp-Ile-Ala-Glu-Amber-Ala-Leu-Leu-Asn-Arg-Gly-Glu-Gln-
Glu-Met-Glu-Pro-Val-Asp-Pro;

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(d) the following sequence of ORF-2:

Ala-Leu-Leu-Asn-Arg-Gly-Glu-Gln-Glu-Met-Glu-Pro-Val-Asp-Pro-Arg-
Leu-Glu-Pro-Trp-Lys-His-Pro-Gly-Ser-Gln-Pro-Lys-Thr-Ala-Cys-Thr-
Thr-Cys-Tyr-Cys-Lys-Lys-Cys-Cys-Phe-His-Cys-Gln-Val-Cys-Phe-Thr-
Thr-Lys-Ala-Leu-Gly-Ile-Ser-Tyr-Gly-Arg-Lys-Lys-Arg-Arg-Gln-Arg-
Arg-Arg-Pro-Pro-Gln-Ser-Gln-Thr-His-Gln-Val-Ser-Leu-Ser-Lys-Gln;

(e) the following sequence of ORF-3:

Lys-Val-Leu-Leu-Ser-Leu-Pro-Ser-Leu-Phe-His-Asn-Lys-Ser-Leu-Arg-
His-Leu-Leu-Trp-Glu-Glu-Ala-Glu-Thr-Ala-Thr-Lys-Thr-Ser-Ser-Arg-
Gln-Ser-Asp-Ser-Ser-Ser-Phe-Ser-Ile-Lys-Ala-Val-Ser-Ser-Thr-Cys-
Asn-Ala-Thr-Tyr-Thr-Asn-Ser-Asn-Ser-Ser-Ile-Ser-Ser-Ser-Asn-Asn-
Asn-Ser-Asn-Ser-Cys-Val-Val-His-Ser-Asn-His-Arg-Ile;

(f) the following sequence of ORF-4:

Val-Val-His-Val-Met-Gln-Pro-Ile-Gln-Ile-Ala-Ile-Ala-Ala-Leu-Val-
Val-Ala-Ile-Ile-Ile-Ala-Ile-Val-Val-Trp-Ser-Ile-Val-Ile-Ile-Glu-
Tyr-Arg-Lys-Ile-Leu-Arg-Gln-Arg-Lys-Ile-Asp-Arg-Leu-Ile-Asp-Arg-
Leu-Ile-Glu-Arg-Ala-Glu-Asp-Ser-Gly-Asn-Glu-Ser-Glu-Gly-Glu-Ile-
Ser-Ala-Leu-Val-Glu-Met-Gly-Val-Glu-Met-Gly-His-His-Ala-Pro-Trp-
Asp-Ile-Asp-Asp-Leu;

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(g) the following sequence of ORF-5:

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His-Leu-Ser-Gly-Thr-Ile-Cys-Gly-Ala-Leu-Cys-Leu-Phe-Ser-Tyr-His-
Arg-Leu-Arg-Asp-Leu-Leu-Leu-Ile-Val-Thr-Arg-Ile-Val-Glu-Leu-Leu-
Gly-Arg-Arg-Gly-Trp-Glu-Ala-Leu-Lys-Tyr-Trp-Trp-Asn-Leu-Leu-Gln-
Tyr-Trp-Ser-Gln-Glu-Leu-Lys-Asn-Ser-Ala-Val-Ser-Leu-Leu-Asn-Ala-
Thr-Ala-Ile-Ala-Val-Ala-Glu-Gly-Thr-Asp-Arg-Val-Ile-Glu-Val-Val-
Gln-Gly-Ala-Cys-Arg-Ala-Ile-Arg-His-Ile-Pro-Arg-Arg-Ile-Arg-Gln-
Gly-Leu-Glu-Arg-Ile-Leu-Leu-Ochre-Asp; and

B

(h) the following sequence of LTR:

Gly-Gly-Ser-Glu-Gly-Leu-Ile-His-Ser-Gln-Arg-Arg-Gln-Asp-Ile-Leu-
Asp-Leu-Trp-Ile-Tyr-His-Thr-Gln-Gly-Tyr-Phe-Pro-Asp-Trp-Gln-Asn-
Tyr-Thr-Pro-Gly-Pro-Gly-Val-Arg-Tyr-Pro-Leu-Thr-Phe-Gly-Trp-Cys-
Tyr-Lys-Leu-Val-Pro-Val-Glu-Pro-Asp-Lys-Val-Glu-Glu-Ala-Asn-Lys-
Gly-Glu-Asn-Thr-Ser-Leu-Leu-His-Pro-Val-Ser-Leu-His-Gly-Met-Asp-
Asp-Pro-Glu-Arg-Glu-Val-Leu-Glu-Trp-Arg-Phe-Asp-Ser-Arg-Leu-Ala-
Phe-His-His-Val-Ala-Arg-Glu-Leu-His-Pro-Glu-Tyr-Phe-Lys-Asn-Cys-
*-His-Arg-Ala-Cys-Tyr-Lys-Gly-Leu-Ser-Ala-Gly-His-Phe-Pro-Gly-
Arg-Arg-Gly-Leu-Gly-Gly-Thr-Gly-Glu-Trp-Arg-Ala-Leu-Arg-Trp-Trp-
Ile-*-Ala-Ala-Ala-Phe-Cys-Leu-Tyr-Trp-Ala-Ser-Leu-Val-Arg-Pro-
Asp-Leu-Ser-Leu-Gly-Ala-Leu-Trp-Leu-Thr-Arg-Glu-Pro-Thr-Ala-*-
Ala-Ser-Ile-Lys-Leu-Ala-Leu-Ser-Ala-Ser-Ser-Ser-Val-Cys-Pro-Ser-
Val-Val-*-Leu-Trp-*-Leu-Glu-Ile-Pro-Gln-Thr-Leu-Leu-Val-Ser-Val-
Glu-Asn-Leu-*-Gln-Trp-Arg-Pro-Asn-Arg-Asp-Leu-Lys-Ala-Lys-Gly-
Lys-Pro-Glu-Glu-Leu-Ser-Arg.

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14. The antibody according to claim 13, wherein said antibody is labeled with a label selected from the group consisting of a radioactive label, an enzymatic label, a fluorescent label, a chemiluminescent label, and a chromophore label.

15. An isolated immunological complex comprising an amino acid sequence of human immunodeficiency virus type 1 (HIV-1) and an antibody against said amino acid sequence, which antibody binds with said amino acid sequence, wherein said amino acid sequence is selected from the group consisting of:

(a) the following sequence of ORF-Q:

Cys-Gln-Glu-Glu-Lys-Gln-Arg-Ser-Leu-Gly-Ile-Met-Glu-Asn-Arg-Trp-Gln-Val-Met-Ile-Val-Trp-Gln-Val-Asp-Arg-Met-Arg-Ile-Arg-Thr-Trp-Lys-Ser-Leu-Val-Lys-His-His-Met-Tyr-Val-Ser-Gly-Lys-Ala-Arg-Gly-Trp-Phe-Tyr-Arg-His-His-Tyr-Glu-Ser-Pro-His-Pro-Arg-Ile-Ser-Ser-Glu-Val-His-Ile-Pro-Leu-Gly-Asp-Ala-Arg-Leu-Val-Ile-Thr-Thr-Val-Trp-Gly-Leu-His-Thr-Gly-Glu-Pro-Asp-Trp-His-Leu-Gly-Gln-Gly-Val-Ser-Ile-Glu-Trp-Arg-Lys-Lys-Arg-Tyr-Ser-Thr-Gln-Val-Asp-Pro-Glu-Leu-Ala-Asp-Gln-Leu-Ile-His-Leu-Tyr-Tyr-Phe-Asp-Cys-Phe-Ser-Asp-Ser-Ala-Ile-Arg-Lys-Ala-Leu-Leu-Gly-His-Ile-Val-Ser-Pro-Arg-Cys-Phe-Tyr-Gln-Ala-Gly-His-Asn-Lys-Val-Gly-Ser-Leu-Gln-Tyr-Leu-Ala-Leu-Ala-Ala-Leu-Ile-Thr-Pro-Lys-Lys-Ile-Lys-Pro-Pro-Leu-Pro-Ser-Val-Thr-Lys-Leu-Tyr-Thr-Glu-Asp-Arg-Trp-Asn-Lys-Pro-Gln-Lys-Thr-Lys-Gly-His-Arg-Gly-Ser-His-Thr-Met-Asn-Gly-His;

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(b) the following sequence of ORF-R:

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Glu-Pro-Ala-Ala-Asp-Gly-Val-Gly-Ala-Ala-Ser-Arg-Asp-Leu-Phe-Lys-
His-Gly-Ala-Ile-Thr-Ser-Ser-Asn-Thr-Ala-Ala-Thr-Asn-Ala-Ala-Cys-
Ala-Trp-Leu-Phe-Ala-Gln-Phe-Phe-Phe-Phe-Val-Gly-Phe-Pro-Val-Thr-
Pro-Gln-Val-Pro-Leu-Arg-Pro-Met-Thr-Tyr-Lys-Ala-Ala-Val-Asp-Leu-
Ser-His-Phe-Leu-Lys-Glu-Lys-Gly-Gly-Leu-Glu-Gly-Leu-Ile-His-Ser-
Gln-Arg-Arg-Gln-Asp-Ile-Leu-Asp-Leu-Trp-Ile-Tyr-His-Thr-Gln-Gly-
Tyr-Phe-Pro-Asp-Trp-Gln-Asn-Tyr-Thr-Pro-Gly-Pro-Gly-Val-Arg-Tyr-
Leu-Thr-Phe-Gly-Trp-Cys-Tyr-Lys-Leu-Val-Pro-Val-Phe-Pro-Asp-Lys-
Val-Phe-Phe-Ala-Asn-Lys-Gly-Phe-Asn-Thr-Ser-Leu-Leu-His-Pro-Val-
Ser-Leu-His-Gly-Met-Asp-Asp-Pro-Glu-Arg-Glu-Val-Leu-Glu-Trp-Arg-
Phe-Asp-Ser-Arg-Leu-Ala-Phe-His-His-Val-Ala-Arg-Glu-Leu-His-Pro-
Glu-Tyr-Phe-Lys-Asn-Cys;

(c) the following sequence of ORF-1:

Trp-Asn-Lys-Pro-Gln-Lys-Thr-Lys-Gly-His-Arg-Gly-Ser-His-Thr-Met-
Asn-Gly-His-Amber-Ser-Phe-Amber-Arg-Ser-Leu-Arg-Met-Lys-Leu-Leu-
Asp-Ile-Phe-Leu-Gly-Phe-Gly-Phe-Gly-Ser-Met-Ala-Amber-Gly-Asn-
Ile-Ser-Met-Lys-Leu-Met-Gly-Ile-Leu-Gly-Gln-Glu-Trp-Lys-Pro-
Ochre-Ochre-Glu-Phe-Cys-Asn-Asn-Cys-Cys-Leu-Ser-Ile-Ser-Glu-Leu-
Gly-Val-Asp-Ile-Ala-Glu-Amber-Ala-Leu-Leu-Asn-Arg-Gly-Glu-Gln-
Glu-Met-Glu-Pro-Val-Asp-Pro;

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(d) the following sequence of ORF-2:

Ala-Leu-Leu-Asn-Arg-Gly-Glu-Gln-Glu-Met-Glu-Pro-Val-Asp-Pro-Arg-
Leu-Glu-Pro-Trp-Lys-His-Pro-Gly-Ser-Gln-Pro-Lys-Thr-Ala-Cys-Thr-
Thr-Cys-Tyr-Cys-Lys-Lys-Cys-Cys-Phe-His-Cys-Gln-Val-Cys-Phe-Thr-
Thr-Lys-Ala-Leu-Gly-Ile-Ser-Tyr-Gly-Arg-Lys-Lys-Arg-Arg-Gln-Arg-
Arg-Arg-Pro-Pro-Gln-Ser-Gln-Thr-His-Gln-Val-Ser-Leu-Ser-Lys-Gln;

(e) the following sequence of ORF-3:

Lys-Val-Leu-Leu-Ser-Leu-Pro-Ser-Leu-Phe-His-Asn-Lys-Ser-Leu-Arg-
His-Leu-Leu-Trp-Glu-Glu-Ala-Glu-Thr-Ala-Thr-Lys-Thr-Ser-Ser-Arg-
Gln-Ser-Asp-Ser-Ser-Ser-Phe-Ser-Ile-Lys-Ala-Val-Ser-Ser-Thr-Cys-
Asn-Ala-Thr-Tyr-Thr-Asn-Ser-Asn-Ser-Ser-Ile-Ser-Ser-Ser-Asn-Asn-
Asn-Ser-Asn-Ser-Cys-Val-Val-His-Ser-Asn-His-Arg-Ile;

(f) the following sequence of ORF-4:

Val-Val-His-Val-Met-Gln-Pro-Ile-Gln-Ile-Ala-Ile-Ala-Ala-Leu-Val-
Val-Ala-Ile-Ile-Ile-Ala-Ile-Val-Val-Trp-Ser-Ile-Val-Ile-Ile-Glu-
Tyr-Arg-Lys-Ile-Leu-Arg-Gln-Arg-Lys-Ile-Asp-Arg-Leu-Ile-Asp-Arg-
Leu-Ile-Glu-Arg-Ala-Glu-Asp-Ser-Gly-Asn-Glu-Ser-Glu-Gly-Glu-Ile-
Ser-Ala-Leu-Val-Glu-Met-Gly-Val-Glu-Met-Gly-His-His-Ala-Pro-Trp-
Asp-Ile-Asp-Asp-Leu;

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(g) the following sequence of ORF-5:

His-Leu-Ser-Gly-Thr-Ile-Cys-Gly-Ala-Leu-Cys-Leu-Phe-Ser-Tyr-His-
Arg-Leu-Arg-Asp-Leu-Leu-Leu-Ile-Val-Thr-Arg-Ile-Val-Glu-Leu-Leu-
Gly-Arg-Arg-Gly-Trp-Glu-Ala-Leu-Lys-Tyr-Trp-Trp-Asn-Leu-Leu-Gln-
Tyr-Trp-Ser-Gln-Glu-Leu-Lys-Asn-Ser-Ala-Val-Ser-Leu-Leu-Asn-Ala-
Thr-Ala-Ile-Ala-Val-Ala-Glu-Gly-Thr-Asp-Arg-Val-Ile-Glu-Val-Val-
Gln-Gly-Ala-Cys-Arg-Ala-Ile-Arg-His-Ile-Pro-Arg-Arg-Ile-Arg-Gln-
Gly-Leu-Glu-Arg-Ile-Leu-Leu-Ochre-Asp; and

(h) the following sequence of LTR:

Gly-Gly-Ser-Glu-Gly-Leu-Ile-His-Ser-Gln-Arg-Arg-Gln-Asp-Ile-Leu-
Asp-Leu-Trp-Ile-Tyr-His-Thr-Gln-Gly-Tyr-Phe-Pro-Asp-Trp-Gln-Asn-
Tyr-Thr-Pro-Gly-Pro-Gly-Val-Arg-Tyr-Pro-Leu-Thr-Phe-Gly-Trp-Cys-
Tyr-Lys-Leu-Val-Pro-Val-Glu-Pro-Asp-Lys-Val-Glu-Glu-Ala-Asn-Lys-
Gly-Glu-Asn-Thr-Ser-Leu-Leu-His-Pro-Val-Ser-Leu-His-Gly-Met-Asp-
Asp-Pro-Glu-Arg-Glu-Val-Leu-Glu-Trp-Arg-Phe-Asp-Ser-Arg-Leu-Ala-
Phe-His-His-Val-Ala-Arg-Glu-Leu-His-Pro-Glu-Tyr-Phe-Lys-Asn-Cys-
*-His-Arg-Ala-Cys-Tyr-Lys-Gly-Leu-Ser-Ala-Gly-His-Phe-Pro-Gly-
Arg-Arg-Gly-Leu-Gly-Gly-Thr-Gly-Glu-Trp-Arg-Ala-Leu-Arg-Trp-Trp-
Ile-*-Ala-Ala-Ala-Phe-Cys-Leu-Tyr-Trp-Ala-Ser-Leu-Val-Arg-Pro-
Asp-Leu-Ser-Leu-Gly-Ala-Leu-Trp-Leu-Thr-Arg-Glu-Pro-Thr-Ala-*-
Ala-Ser-Ile-Lys-Leu-Ala-Leu-Ser-Ala-Ser-Ser-Ser-Val-Cys-Pro-Ser-
Val-Val-*-Leu-Trp-*-Leu-Glu-Ile-Pro-Gln-Thr-Leu-Leu-Val-Ser-Val-
Glu-Asn-Leu-*-Gln-Trp-Arg-Pro-Asn-Arg-Asp-Leu-Lys-Ala-Lys-Gly-
Lys-Pro-Glu-Glu-Leu-Ser-Arg.

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